LOUISIANA DEPARTMENT OF WILDLIFE & FISHERIES

OFFICE OF FISHERIES
INLAND FISHERIES SECTION

PART VI -A

WATERBODY MANAGEMENT PLAN SERIES

LAKE LAFOURCHE - CALDWELL

LAKE HISTORY & MANAGEMENT ISSUES

CHRONOLOGY

February 2014

Prepared by Ryan Daniel, Biologist Manager, District 2

The remainder of this page intentionally left blank.

TABLE OF CONTENTS

TABLE OF CONTENTS **3**

LAKE LAFOURCHE HISTORY **4**

GENERAL INFORMATION 4
Location *4*
Date reservoir formed *4*
Impoundment *4*
Size *4*
Watershed *6*
Pool stage *6*
Parish/s located *6*
Border waters *6*
Spillway *6*
Drawdown description *6*
Who controls *6*
LAKE AUTHORITY 7
Association *7*
Authorization *7*
ACCESS 7
Boat Ramps *7*
Piers *7*
State/Federal/Municipal Facilities *7*
SHORELINE DEVELOPMENT 8
PHYSICAL DESCRIPTION OF LAKE 8
Shoreline length *8*
Timber type *8*
Average depth *8*
Maximum depth *8*
Natural seasonal water fluctuation *8*
EVENTS/PROBLEMS 8
AQUATIC VEGETATION 10
Vegetation Type Map *10*
Treatment History by Year *10*
HISTORY OF REGULATIONS 11
Recreational *11*
Commercial *11*
DRAWDOWN HISTORY 12
FISH KILLS/ DISEASE HISTORY/ LMBV 12
CONTAMINANTS/ POLLUTION 13
BIOLOGICAL 13
Fish samples *13*
Stocking history *14*
Genetics *15*
Threatened/endangered/exotic species *15*
CREEL 15
HYDROLOGICAL CHANGES 16
WATER USE 16
Water Supply *16*
Recreational: *16*

APPENDIX A **17**

LAKE LAFOURCHE HISTORY

GENERAL INFORMATION

Location
Caldwell Parish, near the community of Hebert.

Date reservoir formed
1958 – 14 mile section of Bayou Lafourche channel separated from active bayou by earthen dams between the Boeuf River and Lafourche diversion canal

Impoundment
Owner – Caldwell Parish, managed by the Caldwell Parish Police Jury. Parts of the lake lie within the Boeuf Wildlife Management Area (WMA). Some of the lake bottom is privately owned.

Purposes for Creation – drainage improvement, water level maintained for agricultural irrigation, residential development, and recreational purposes

Size
1,000 acres (Figure 1)

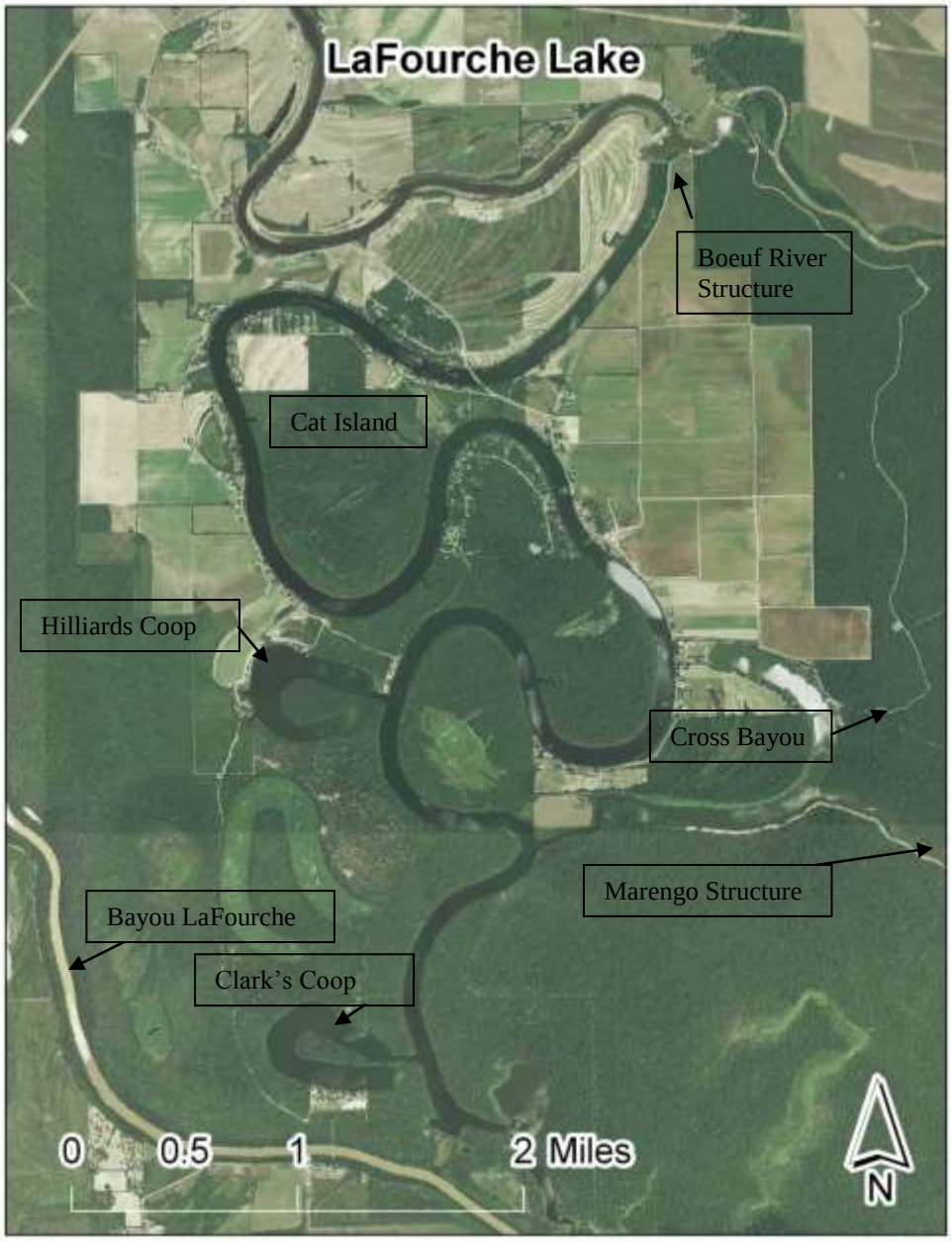

Figure 1. Aerial photo of Lake Lafourche in Caldwell Parish, Louisiana.

Watershed
12,000 acres (12:1 watershed: lake ratio)

Pool stage
48.0 feet Mean Sea Level (MSL)

Parish/s located
Caldwell

Border waters
Boeuf River at the upper end, Bayou Lafourche diversion canal at the lower end

Spillway
(2) 48 inch culverts are located at Cross Bayou that serves as the overflow spillway for the lake. The bottoms of the culverts are affixed at 48.0 ft. MSL.

Drawdown description
The drawdown structure is located at Marengo Bayou. It is a 36 in. culvert with a manually operated slide gate (Figure 2). The structure was repaired and updated in 2010, and is capable of dewatering the lake up to eight feet.

Figure 2. Photo of Lake Lafourche drawdown structure, located at Marengo Bayou. The photo was taken during a lake drawdown in 2010.

Who controls
The drawdown structure is operated by the Lafourche Lake Commission (LLC) in cooperation with the Louisiana Department of Wildlife and Fisheries (LDWF).

Other Water Control Structure

Boeuf River Structure – 48 in. culvert with manually controlled lift gate, located in the upper dam which separates Lake Lafourche from the Boeuf River. This structure is used to release water from the Boeuf River into Lake Lafourche. It has been used in the past to re-fill the lake following drawdowns and raise the lake to near pool stage during drought periods.

LAKE AUTHORITY

Association

Lake Lafourche Lake Commission – authorized by the Caldwell Parish Police Jury (CPPJ). The lake commission consists of five members appointed by the CPPJ, each with 4 year terms. Current members are listed as follows:

Robert Washam (CPPJ Rep.) -	(318) 649-5693
Carl Brehm –	(318) 649-0417
Robert Duncan –	(318) 649-5142
Kevin Fuller –	(318) 488-1035
Jimmy Hammonds –	(318) 649 5922
Chris Strickland –	(318) 649-0372

Authorization

Any parish or parishes, by formal resolution of the governing authority, pursuant to R.S. 56:721 et seq., may appoint a game and fish commission which may exercise those powers, duties, and functions provided in R.S. 56:721 et seq. in relation to the game and fish preserves.

ACCESS

Boat Ramps

Marengo Ramp on Boeuf WMA (WMA check-in required)
N 32.136211^{o} W -91.937612^{o}

Hilliard's (North) Coop on Boeuf WMA (WMA check-in required)
N 32.13 7972^{o} W -91.970619^{o}

Parish Ramp at Hwy. 848 bridge (completed 2013)
N 32.157896°; W -91.965717°

Piers

None

State/Federal/Municipal Facilities

None

SHORELINE DEVELOPMENT

Residential
There are numerous homes and camps on Lake Lafourche.

Business/Industry
None

Agricultural
Lake Lafourche lies within an agricultural area. Cotton, corn, wheat, and soybeans are typically grown in close proximity adjacent to the upper portions of the lake.

Wildlife Management Area
Much of the lake and shoreline lies within the Boeuf WMA where development is not permitted.

PHYSICAL DESCRIPTION OF LAKE

Shoreline length
Approximately 40 miles

Timber type
Bald cypress (*Taxodium distichum*) is still present in a few locations, though very few live trees remain in Lake Lafourche. Species typical of the surrounding bottomland hardwood forests are found adjacent to the lake, especially on the Boeuf WMA.

Average depth
6 ft.

Maximum depth
15 ft.

Natural seasonal water fluctuation
2 ft. – 3 ft.

EVENTS/PROBLEMS

Water Level Control
The manipulation of water levels or lack of reliable means to do so has played a significant role in the history of Lake Lafourche since it was impounded in the 1950's. The drawdown structure was not installed until 1961 and soon after a drawdown program was initiated by LDWF in an effort to control nuisance aquatic vegetation. It soon became apparent that there was no reliable way to refill the lake if seasonal rainfall was inadequate because the natural levee of the previous river channel created a small watershed. The fisheries began to suffer soon thereafter due to low water levels during the spawning season and the drawdowns were discontinued. In the late 1960's, a control structure was built at the upper end which would

allow water from Boeuf River to flow into the lake for refilling purposes. There became an immediate concern about the introduction of water hyacinth (*Eichhornia crassipes*) from the Boeuf River, which delayed the use of this structure. By 1980, both structures were in need of repair, though funding was not available. The overflow culverts at Cross Bayou had become clogged by beavers. The lake rose nearly two feet by 1980. Residents and lake commission members became accustomed to this new pool stage. After the beaver dam was removed, the lake commission soon blocked the culverts again in 1981 to raise the lake level one foot. In 1982, repairs were attempted to the damaged Marengo structure while the lake was low. At this time, a new lake commission, comprised of members that opposed drawdowns, was appointed and the gates were closed. This lake commission was soon abolished by the CPPJ. The Marengo structure was finally repaired in 1993 and a drawdown was initiated in the fall of 1994 for fisheries management purposes. Repairs were made to the Boeuf River structure in 2009. The Cross Bayou culverts remained clogged until 2011, when the culverts were replaced and the lake was once again maintained at its original pool stage. An extensive drawdown was conducted in 2010 to replace the Marengo structure. The Boeuf River structure was opened the following spring to allow the lake to refill. The opening of this structure remains controversial, as there is always the potential to introduce exotic species into Lake Lafourche, especially Asian carp, which have become abundant in the Boeuf River. It has been advised by LDWF that this structure should only be used in extreme situations, such as very low water during the spring. Numerous requests have been made over the years by residents and the CPPJ for the LDWF to assume control of these structures, though the lake commission retains that authority.

Vegetation/Unbalanced Fish Population

In 1972, the CPPJ requested that the LDWF make recommendations to improve the overall operation of the lake, specifically addressing the vegetation problems and the unbalanced fish population. Excessive submergent vegetation, especially in the shallow meander scars attached to the lake (locally known as coops), was believed to be partly responsible for the unbalanced fish community. Dense stands of coontail (*Ceratophyllum demersum*) made feeding by predatory species difficult and reduced the amount of open water which crappies (*Pomoxis spp.*) and shad (*Dorosoma spp.*) prefer. The vegetation also impaired the spawning success of sportfish and created an overall habitat more conducive to rough fish, such as buffalo (*Ictiobus spp.*) and common carp (*Cyprinus carpio*). Biomass sampling with rotenone suggested an overabundance of rough fish and small sportfish, such as bream (*Lepomis spp.*) and largemouth bass (*Micropterus salmoides*).

Recommendations by LDWF included:

- Vegetation management by herbicide and drawdown
- Encouragement to commercial anglers to reduce the rough fish population
- Stocking of predatory species such as channel (*Ictalurus punctatus*) and flathead catfish (*Pylodictis olivaris*).
- A drawdown from September 1st through January 15th to at least 10 ft. below pool stage to ensure complete dewatering of the coops and to adequately concentrate fish in the stream channel to facilitate predation on overabundant stunted species.

Coontail and water primrose (*Ludwigia spp.)* were treated with the herbicide 2,4-D, which was commonly used at the time. During the drawdown of 1994, the LDWF permitted the use of nets by commercial fishermen in an effort to reduce the abundance of rough fish. A

subsequent report in 1995 stated that the netting effort was successful, as rotenone sampling showed a tremendous decrease in pounds-per-acre of rough fish and a shift towards larger size sportfish. In the mid-1990's, a request was once again made for assistance from LDWF. The recommendations were similar to those previous and also mentioned the essential need for reliable water control structures. Frequent sampling of the fisheries was conducted to document current population status and effects of the 1994 drawdown.

MANAGEMENT ISSUES

AQUATIC VEGETATION

The aquatic vegetation community on Lake Lafourche primarily consists of the submerged species coontail, the floating species water hyacinth and water pennywort (*Hydrocotyle spp.*), and the emergent species water primrose and alligator weed (*Alternanthera philoxeroides*). Historically, coontail, a native species, has been the most problematic, forming large mats in various areas of the lake, especially the shallow coops and Marengo Lake which are historic meander scars attached to the lake. Coontail is considered to be beneficial to fisheries when coverage is not excessive. In the past, it exceeded acceptable levels, though currently it is not considered to be problematic. Water hyacinth has only recently caused problems in the backs of protected coves and in Cross Bayou, which serves as the overflow for the lake. Water primrose and alligator weed and currently confined to the immediate shoreline, though they do require occasional treatment in the shallow coops, where they become a nuisance to homeowners.

Vegetation Type Map

Vegetation Survey of 1978 – a lake-wide assessment of the vegetative community was conducted. It was reported that water primrose was found along the entire length of the shoreline, extending an average of 30 ft. – 40 ft. from shore. The coverage was considered to be a serious problem in some areas. Coontail was reported to be dense in much of the shallows around the lake, but worse in the southern half. Both species were recommended to be treated with herbicides, specifically 2,4-D at various rates.

No other formal vegetation surveys have been conducted.

Vegetation Biomass

No biomass surveys of aquatic vegetation have been conducted on Lake Lafourche.

Treatment History by Year

Biological

None

Physical

None

Chemical

Routine spraying of contact herbicides for control of floating and emergent species has been conducted by LDWF since the 1960's. Species most commonly treated are water hyacinth and water primrose. Recent efforts have been primarily for the purpose of reducing the coverage of primrose near residential areas and to maintain flow in Cross Bayou. Traditionally, 2,4-D (0.5 gal./acre) and glyphosate (0.75 gal./acre) have been the most commonly used herbicides. The herbicide 2,4-D is more cost efficient, though it cannot be used without a waiver during the period of March 15 – Sept. 15, imposed by the Louisiana Department of Agriculture and Forestry to protect agricultural operations in certain parishes. More recently, herbicides with the active ingredients imazapyr (0.5 gal./acre) and triclopyr (0.5 gal./acre) have been used on primrose and alligator weed, and have proven to be more effective. Applications are currently scheduled on an as-needed basis and quick responses are made to complaints from homeowners and the lake commission.

Table 1. Acres of vegetation treated with herbicides on Lake Lafourche for selected species, 2005 – 2013.

	Species			
Year	Water Hyacinth	Primrose	Alligator weed	Pennywort
2005	80	-	3	-
2006	71	-	8	5
2007	51	-	28	-
2008	36	-	2	-
2009	61	-	88	-
2010	50	-	107	7
2011	92	48	66	-
2012	28	16	23	2
2013	71	-	1	10

HISTORY OF REGULATIONS

Recreational

State recreational fishing regulations apply, with the exception of special regulations pertaining to the use of yo-yo's and trotlines. These special regulations were amended for Lake Lafourche in 2013, when yo-yo and trotline restrictions became standardized for certain Louisiana waterbodies. Recreational fishing regulations may be viewed at the link below: http://www.wlf.louisiana.gov/fishing/regulations

Commercial

Statewide commercial fishing regulations apply. No commercial activities are allowed within Boeuf WMA. Commercial fishing regulations may be viewed at the link below: http://www.wlf.louisiana.gov/fishing/regulations

DRAWDOWN HISTORY

Annual drawdowns were reportedly initiated in the early 1960's after the Marengo water control structure was installed in 1961. The purpose for these fall/winter drawdowns was for control of excessive vegetation. Though effective, these drawdowns were discontinued because of unreliable refilling of the lake prior to the following spring spawning season. Drawdowns for vegetation control and fisheries purposes were frequently recommended by LDWF, but unreliable control structures often prevented them from occurring. The following table (Table 2) lists documented drawdowns that occurred on Lake Lafourche since it was created.

Table 2. Description of documented drawdowns of Lake Lafourche, LA.

DRAWDOWN HISTORY				
Date Opened	Date Closed	Purpose	Results	Issues
Fall 2010	January 2011	Repair Marengo control structure, drying of lake bottom, boat ramp repair	Structure successfully repaired, adequate exposure of lake bottom	None
Fall 1994	Winter 1995	Fish management – overabundant forage. Vegetation control.	Some improvement noted in fisheries and vegetation	Heavy rains in October shortened the duration of the drawdown
Fall 1982 (?)	Winter 1983 (?)	Recommended for control of overabundant forage species and excessive vegetation	None documented, drawdown may not have been achieved	None documented
Multiple drawdowns in early 1960's – Fall/Winter		Vegetation control – coontail and primrose (rec. by LDWF)	Effective	Became controversial due to lengthy refill period and were discontinued

FISH KILLS/ DISEASE HISTORY/ LMBV

There has been no history of fish kills or disease outbreaks on Lake Lafourche. The only documented fish kill occurred in August 1963, and low dissolved oxygen levels were identified as the likely cause. It was reported to be a moderate fish kill that was comprised mostly of shad, but included some game fish and buffalo.

CONTAMINANTS/ POLLUTION

There are no current fish consumption advisories in effect for Lake Lafourche. There have been no serious instances of pollution being introduced into the lake.

BIOLOGICAL

Fish samples

The fisheries of Lake Lafourche have been sampled with various gears to periodically assess the status of the fish community and to monitor population trends over time. Biomass sampling, with the use of the fish toxicant rotenone, was the primary sampling method in the 1970's and 1980's. The biomass samples typically consisted of applying rotenone within a 1-acre square net and collecting all fish that float within a 2-day period.

Sampling by electrofishing and various types of nets has replaced the use of rotenone, as these gears are efficient and mostly non-lethal. An electrofishing sample consists of applying DC current into the water for a period of 15 minutes with use of a boat- mounted prod pole. Typically, only black bass and crappie are collected for measurements, though a special forage sample is conducted during the fall sampling period when all species are collected to determine availability of forage for predatory species and to provide information on abundance and presence of other species.

Shoreline seining is an effective method to evaluate the spawning success of certain species and availability of forage species.

A gill net sample consists of four different mesh size (2.5 in., 3.0 in., 3.5 in. and 4.0 in.) monofilament nets (100 m. in length) run concurrently. Gill nets are used to assess the abundance of commercial species and also larger bass and crappie.

Lead nets, which were first used in 2007, provide estimates of crappie, sunfish, and catfish populations. A lead net sample consists of (2) lead nets, which are (2) 3.5 ft. hoop nets with 1.0 in. mesh connected by a lead. All recorded fish sampling activities conducted on Lake Lafourche are listed below (Table 3).

Table 3. A summary of all fish samples taken and scheduled on Lake Lafourche, LA.

Year	Sampling Gear	# of Samples
1972	rotenone	1
1976	rotenone	1
1980	rotenone	2
1981	rotenone	4
1982	rotenone	3
1983	rotenone	3
1985	rotenone	3

1993	rotenone	2
1993	Fall -night electro	4 + forage
1995	rotenone	3
1998	Spring – day electro	6
1998	Fall – day electro	6
1998	seine	3
2002	Spring – night electro	3
2002	Fall – day electro	4
2002	seine	4
2003	gill nets	2
2004	Spring – night electro	4 + forage
2004	Fall – night electro	3
2004	seine	3
2007	Spring – night electro	4
2007	lead nets	5
2007	seine	3
2010	seine	2
2011	Spring – day electro	4
2014	gill nets	3
2014	lead nets	3
2014	Spring – night electro	4
2014	Fall – day electro	4 + forage
2015	seine	3
2016	lead nets	3
2017	gill nets	3
2017	Spring – night electro	4
2017	Fall – night electro	4 + forage

Stocking history

Lake Lafourche has been stocked with various species of fish on multiple occasions. These introductions have been for multiple purposes. For example, hybrid striped bass (*Morone chrysops x M. saxatilis*), blue catfish (*I. furcatus*), and flathead catfish have been stocked to control overabundant forage. Florida largemouth bass (*M. floridanus*) have been stocked in an effort to produce larger bass desired by anglers. Channel catfish were stocked to provide an additional recreational species. Table 4 lists all of the documented fish stockings conducted by LDWF on Lake Lafourche.

Table 4. History of fish stockings on Lake Lafourche, LA 1967 – 2009. All fish were fingerlings unless otherwise noted.

Year	Species	Number
1967	channel catfish	1,346 (1 lb. avg.)
1981	blue catfish	10,750
1982	blue catfish	16,000

1994	channel catfish	20,000
1995	channel catfish	16,270
1995	Florida largemouth	10,000
1996	channel catfish	17,460
1998	Florida largemouth	26,631
2000	flathead catfish	6,867
2003	Florida largemouth	10,036
2004	Florida largemouth	10,970
2004	Hybrid striped bass (r)*	6,000
2007	Florida largemouth	11,000
2007	Hybrid striped bass	10,422
2009	Florida largemouth	11,184

*reciprocal cross (male striped bass x female white bass)

Scheduled fish stockings

No fish stockings are currently scheduled.

Species profile

A post impoundment list of fishes is found in **APPENDIX A**.

Genetics

No genetic analyses have been performed on largemouth bass from Lake Lafourche. Numerous stockings of Florida largemouth bass have been made since 1995, though it is not known if they have become established and/or what percentage of the largemouth bass population that they comprise. Prior to the initial stocking, it was believed that only northern largemouth bass were present in Lake Lafourche.

Threatened/endangered/exotic species

No threatened or endangered fish species are known to exist in Lake Lafourche. Asian carp (several species), which are exotic, have been reported to be present in Lake Lafourche. Silver carp (*Hypophthalmichthys molitrix*) and grass carp (*Ctenopharyngodon idella*) have been documented from fish samples, though bighead carp (*H. nobilis*) are also believed to be present.

CREEL

No angler surveys have been conducted on Lake Lafourche.

HYDROLOGICAL CHANGES

Prior to impoundment, Lake Lafourche was originally an active channel of Bayou Lafourche, a tributary of the Boeuf River. The water level was originally maintained at 47.0 ft. MSL, though obstructions in the overflow culverts have resulted in the lake being maintained as high as 51.5 ft. MSL for various periods. The current structure maintains the lake at 48.0 ft. MSL. An upper control structure was installed in the late 1960's, which allows water to enter the lake from the Boeuf River, and is used for refilling the lake following drawdowns or low water periods.

WATER USE

Water Supply

Lake Lafourche is used as a water source for irrigation of some adjacent croplands, though not a significant source, as much of the lake is within the Boeuf WMA.

Recreational:

1. Fishing -
   open to public
2. Skiing -
   no designated area, not recommended due to abundance of submerged stumps
3. Scuba Diving -
   not suitable (shallow, murky water)
4. Swimming -
   no public swimming area
4. Boating –
   boaters are advised to use caution, as there are numerous unmarked logs and stumps beneath the surface
6. Hunting -
   open to public (check WMA regulations for areas within Boeuf WMA)

APPENDIX A

Fish Species Documented in Lake Lafourche

AMIIDAE (Bowfin Family)

Bowfin, *Amia calva* (Linnaeus)

ANGUILLIDAE (Freshwater Eel Family)

American Eel, *Anguilla rostrata* (Lesueur)

APHREDODERIDAE (Pirate Perch Family)

Pirate Perch, *Aphredoderus sayanus* (Gilliams) *suspected

ATHERINIDAE (Silverside Family)

Brook Silverside, *Labidesthes sicculus* (Cope)

CATOSTOMIDAE (Sucker Family)

Bigmouth Buffalo, *Ictiobus cyprinellus* (Valenciennes)
Black Buffalo, *Ictiobus niger* (Rafinesque)
Smallmouth Buffalo, *Ictiobus bubalus* (Rafinesque)
Spotted Sucker, *Minytrema melanops* (Rafinesque) *suspected

CENTRARCHIDAE (Sunfish Family)

Bluegill, *Lepomis macrochirus* (Rafinesque)
Black Crappie, *Pomoxis nigromaculatus* (Lesueur)
White Crappie, *Pomoxis annularis* (Rafinesque)
Largemouth Bass, *Micropterus salmoides* (Lacépède)
Redear Sunfish, *Lepomis microlophus* (Günther)
Green Sunfish, *Lepomis cyanellus* (Rafinesque)
Longear Sunfish, *Lepomis megalotis* (Rafinesque)

Warmouth, *Lepomis gulosus* (Cuvier)
Orangespotted Sunfish, *Lepomis humilis* (Girard)
Redspotted Sunfish, *Lepomis miniatus* (Jordan)

CLUPEIDAE (Herring Family)

Gizzard Shad, *Dorosoma cepedianum* (Lesueur)
Threadfin Shad, *Dorosoma petenense* (Günther)

CYPRINIDAE (Minnow Family)

Common Carp, *Cyprinus carpio* (Linnaeus)
Grass Carp, *Ctenopharyngodon idella,* (Valenciennes)
Bighead Carp, *Hypophthalmichthys nobilis* (Richardson)
Silver Carp, *Hypophthalmichthys molitrix* (Valenciennes)
Golden Shiner, *Notemigonus crysoleucas* (Mitchill)
Bullhead Minnow, *Pimephales vigilax* (Baird and Girard)
Blacktail Shiner, *Cyprinella venusta* (Girard)
Pugnose Minnow, *Opsopoeodus emiliae* (Hay)
Ribbon Shiner, *Lythrurus fumeus* (Evermann)
Red Shiner, *Cyprinella lutrensis* (Baird and Girard)
Taillight Shiner, *Notropis maculates* (Hay)

ELASSOMATIDAE (Pygmy Sunfish Family)
Banded Pygmy Sunfish, *Elassoma zonatum* (Jordan)

FUNDULIDAE (Topminnow Family)

Golden Topminnow, *Fundulus chrysotus* (Günther)*suspected
Blackstripe Topminnow, *Fundulus notatus* (Rafinesque)
Blackspotted Topminnow, *Fundulus olivaceus* (Storer)
Southern Starhead Topminnow, *Fundulus nottii* (Agassiz)*suspected

ICTALURIDAE (Freshwater Catfish Family)

Yellow Bullhead, *Ameiurus natalis* (Lesueur)
Black Bullhead, *Ameiurus melas* (Rafinesque)
Channel Catfish, *Ictalurus punctatus* (Rafinesque)
Blue Catfish, *Ictalurus furcatus* (Rafinesque)
Flathead Catfish, *Pylodictis olivaris* (Rafinesque)
Tadpole Madtom, *Noturus gyrinus* (Mitchill)

LEPISOSTEIDAE (Gar Family)

Spotted Gar, *Lepisosteus oculatus* (Winchell)
Longnose Gar, *Lepisosteus osseus* (Linnaeus)
Alligator Gar, *Atractosteus spatula* (Lacepede)

Shortnose Gar, *Lepisosteus platostomus* (Rafinesque)

POECILIIDAE (Livebearer Family)

Mosquitofish, *Gambusia affinis* (Baird and Girard)

MORONIDAE (Temperate Bass Family)

Yellow Bass, *Morone mississippiensis* (Jordan and Eigenmann)
White Bass, *Morone chrysops* (Rafinesque)
Hybrid Striped Bass, *M. chrysops x M. saxatilis*

PERCIDAE (Darter and Perch Family)

Bluntnose Darter, *Etheostoma chlorosoma* (Hay)
Slough Dater, *Etheostoma gracile* (Girard)

SCIAENIDAE (Drum Family)

Freshwater Drum, *Aplodinotus grunniens* (Rafinesque)